

BEFORE THE
POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

IN THE MATTER OF A PERMIT
TO APPROPRIATE PUBLIC GROUND
WATER GRANTED BY THE DEPARTMENT
OF ECOLOGY TO PRAIRIE
MANAGEMENT, INC.,

HARRY E. WILBERT, COL. (Ret).,

Appellant,

v.

STATE OF WASHINGTON,
DEPARTMENT OF ECOLOGY, and
PRAIRIE MANAGEMENT, INC.,

Respondents.

PCHB No. 82-193

FINAL FINDINGS OF FACT
CONCLUSIONS OF LAW AND
ORDER

This matter, the appeal of a permit to appropriate public ground water granted by Department of Ecology to Prairie Management, Inc., came on for hearing before the Pollution Control Hearings Board, convened at Lacey, Washington, on April 15, 1983. William A. Harrison, Administrative Law Judge, presided. Respondent elected a formal hearing pursuant to RCW 43.21B.230.

1 Appellant Harry E. Wilbert appeared and represented himself.
2 Respondent Department of Ecology was represented by Patricia Hickey
3 O'Brien, Assistant Attorney General. Respondent Prairie Management,
4 Inc., was represented by its attorney R. Mark Asmundson. Reporter
5 Duane W. Lodell recorded the proceedings.

6 Witnesses were sworn and testified. Exhibits were examined.

7 A proposed Findings of Fact, Conclusions of Law and Order of the
8 hearings examiner was mailed to the parties on May 27, 1983.

9 The Board received exceptions to the proposed decision from
10 respondent Department of Ecology, and replies thereto from appellant.
11 The Board, having personally considered the whole record or portions
12 thereof cited by the parties, having considered the exceptions and
13 replies, and having granted the exceptions in part and denied them in
14 part, now makes these

15 FINDINGS OF FACT

16 I

17 This matter arises on Whidbey Island in Island County. Increased
18 ground water withdrawals associated with the population increase in
19 Island County have caused concern about ground water availability and
20 potential sea water intrusion. Most large producing wells in the
21 county have pumping water levels near or below sea level, so that if
22 pumping continued for a long enough time, sea water intrusion would
23 result. About 90 percent of ground water withdrawals in Island County
24 are from a single, sea-level aquifer. There is no evidence that
25 significant saltwater intrusion within this aquifer could be
26 counteracted once it occurs.

II

In a preliminary survey, the U. S. Geological Survey has found that, for selected wells, water levels measured in April 1980 were generally within one or two feet of water levels measured in the early 1960's.

III

While opinions differ, the evidence most favorable to the Department of Ecology (DOE) is that static water levels in wells within the area of Whidbey Island in question range from below sea level up to 3 to 5 feet above sea level (excepting one well with static level 13 feet above sea level). Pumping levels are lower than static levels.

IV

In areas where aquifers are intruded by sea water, sodium and chloride ions predominate. High concentrations of dissolved chloride can be detected by taste. Sea water surrounding Whidbey Island contains approximately 16,000 milligrams per liter (mg/L) of chloride. However, the Water Quality Criteria, 1972 (National Academy of Sciences/National Academy of Engineering, 1974, p.61) recommends that sources exceeding 250 mg/L should not be used for public drinking water if sources of lower levels are available. There is no evidence that any large scale source of drinking water is available for Whidbey Island other than the single, sea-level aquifer in question.

V

In a preliminary survey, the U. S. Geological survey has found

1 five wells on Whidbey Island with chloride concentrations greater than
2 250 mg/L and three other wells with concentrations at or above 190
3 mg/L. These are located close to the shore at various points along
4 the island.

5 VI

6 pumping wells in Island County can induce sea water intrusion by
7 lateral movement and by vertical movement. Thus, pumping in one well
8 can cause sea water intrusion in others.

9 VII

10 On December 7, 1982, DOE granted a permit to appropriate public
11 ground water to Prairie Management, Inc., (PMI) for group domestic
12 supply of 16 residences. The point of withdrawal and place of use is
13 within the Freeland-Double Bluff Peninsula of Whidbey Island. The
14 point of withdrawal is 0.8 mile from Useless Bay, 1.4 miles from
15 Mutiny Bay, and 1.6 miles from Holmes Harbor, each of which is a
16 saltwater component of the greater salt water surrounding Whidbey
17 Island.

18 VIII

19 In fact, the well authorized by the December 7, 1982, permit was
20 constructed prior to June 2, 1982. On that June date, DOE's
21 investigation determined that the depth of the well was approximately
22 200 feet. The static water level is 7.2 feet above mean sea level.
23 The pump intake is 17 feet below mean sea level. The pumping water
24 level would be about 1.2 feet above mean sea level at the requested
25 withdrawal rate (35 gallons per minute).

26 FINAL FINDINGS OF FACT,
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IX

The chloride concentration in PMI's well was determined to be 19 mg/L on February 28, 1983. Recent data from ten wells within a radius of approximately one mile from the PMI well show chloride concentration ranging from 13 to 28 mg/L. One well, approximately two miles from the PMI well and close to the shore of Mutiny Bay, shows chloride concentration of 210 mg/L.

X

PMI's permit to appropriate public ground water contains the following condition relative to sea water intrusion:

When the chloride concentration exceeds 250 mg/L, the withdrawal rate shall be reduced or the pump setting raised to reduce the chloride level to below 250 mg/L.

XI

Appellant Harry E. Wilbert has appealed the ground water permit granted to PMI and seeks its reversal. Mr. Wilbert asserts that the PMI permit is inconsistent with the "public welfare" requirement of RCW 90.03.290 as applied to ground water by RCW 90.44.060, and is also inconsistent with RCW 90.48.080 prohibiting water pollution, all with regard to the issue of saltwater intrusion.

XII

Any Conclusion of Law which should be deemed a Finding of Fact is hereby adopted as such.

From these Findings the Board comes to these

CONCLUSIONS OF LAW

I

FINAL FINDINGS OF FACT,
CONCLUSIONS OF LAW & ORDER
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1 The Department of Ecology (DOE) is constituted as a single state
2 agency with authority to manage water resources and to carry out a
3 coordinated program of water pollution control. RCW 43.21A.020. To
4 this end it must investigate prior to granting any permit to
5 appropriate public ground water. RCW 90.03.290 and 90.44.060.
6 Subsequent to the issuance of such a ground water permit, DOE may
7 issue regulatory orders to limit or prohibit withdrawals to ensure a
8 safe sustaining yield from the ground water body, RCW 90.44.130.
9 Similarly, DOE may limit or prohibit withdrawals which cause or tend
10 to cause water pollution. RCW 90.48.080 and .-120. In the unusual
11 context of ground water withdrawal from a saltwater island, as here,
12 this authority must be used to prevent sea water intrusion, not to
13 contend with it after the fact.

14 II

15 We conclude that, at the present time, the ground water withdrawal
16 authorized by the contested PMI permit will not cause or tend to cause
17 water pollution via sea water intrusion. The action of DOE approving
18 the PMI permit was not in violation of RCW 90.48.080.

19 III

20 We conclude that the permit condition quoted in Findings of Fact
21 X, above, which requires action when chloride concentrations reach
22 250 mg/L, is insufficient by itself to protect against detriment to
23 the public welfare so far as sea water intrusion is concerned.
24 Because there is a possibility that PMI's well development might
25 result in saltwater contamination of a domestic aquifer, testing and

1 monitoring provisions clearly adequate to prevent such contamination
2 must be imposed upon the permit. Hillcrest Water Association v.
3 Department of Ecology and Harbor Vista Associates, PCHB No. 80-128
4 (1981). If water well levels decline significantly in the
5 Freeland-Double Bluff peninsula of Whidbey Island where this well is
6 located, DOE should limit ground water withdrawals to prevent sea
7 water intrusion in PMI's well or other wells. Such regulation should
8 not await the attainment of high chloride concentrations such as the
9 250 mg/L cited in the present permit condition (see Finding of Fact X).

10 The following two conditions should be added to the contested
11 permit to conform it with the public welfare requirement of RCW
12 90.03.290 as applied to ground water by RCW 90.44.060:

13 1. The permittee or its successor(s) shall report to Department
14 of Ecology, in April or August of each year or at such times as
15 the Department determines to be appropriate, the chloride
16 concentration and static water level of the well(s) authorized by
17 this permit.

18 2. The withdrawal of ground water under this permit may be
19 limited, or other appropriate action may be required, by
20 Department of Ecology order to prevent sea water intrusion
21 notwithstanding whether chloride concentration exceeds 250 mg/L in
22 the well(s) authorized by this permit.

23 IV

24 Any Finding of Fact which should be deemed a Conclusion of Law is
25 hereby adopted as such.

26 From these Conclusions the Board enters this
27

ORDER

This matter is remanded to respondent Department of Ecology with instructions to issue a ground water appropriation permit in the same form as previously but with the addition of the two conditions set out in Conclusion of Law III above.

DONE at Lacey, Washington, this 7th day of August, 1983.

POLLUTION CONTROL HEARINGS BOARD

Gayle Rothrock
GAYLE ROTHROCK, Chairman

David Akana
DAVID AKANA, Lawyer Member

Lawrence J. Faulk
LAWRENCE J. FAULK, Member